

ON TWO UNRECORDED MYRTACEOUS PLANTS FROM NEW SOUTH WALES.

BY R. T. BAKER, F.L.S.

(Plates lxiii.-lxiv.)

EUCALYPTUS LASERONI, sp.nov.

A small tree under 40 feet high, and about 1 foot in diameter, with a fibrous but hard stringy bark, in the general acceptation of the latter term.

Abnormal leaves ovate, lanceolate, slightly falcate in some instances, petiolate, attenuate, varying in size up to 5 inches long, and up to 2 inches broad. Normal leaves lanceolate, alternate, subcoriaceous, average leaves under 4 inches long, and 1 inch wide, occasionally shining. Venation distinctly marked, the basal lateral veins sometimes running the whole length of the leaf, and well removed from the edge; the other lateral veins not so oblique, more transverse.

Buds in clusters, on axillary peduncles about $\frac{1}{4}$ inch long. Operculum sharply conical.

Fruits hemispherical, capitular, rim domed, valves scarcely or not exserted, $\frac{1}{4}$ inch in diameter, pedicel varying in length up to 2 lines long.

Arbuscula usque ad 35' alta. Cortex fibrosus, tam in ramis quam in trunco persistens, viridis, et hinc "Bastard Stringy-bark." Folia 3-5" longa, fere 1-2" lata, lanceolata, ovata, alternata, subcoriacea, concoloria; venis patentibus, peripherica a margine remota, venulis obliquis. Pedunculi $\frac{1}{4}$ " longi, axillares, solitarii, 10-15-flori. Fructus $\frac{1}{4}$ " longi, pilulares; margine convexo, valvis non exsertis.

Remarks.—This tree, so far, is known only from the Black Mountain district, where Mr. Laseron obtained material in July, 1907. He states in his field-notes that it is regarded locally as a

cross between "Silver-Top Stringybark," *E. laevopinea*, and "Sally," *E. stellulata*. A few trees are to be found on a rough, rocky basalt hillock, about half a mile south of Black Mountain railway station.

It is a small tree, 35 feet high, and 1 foot in diameter, as far as seen. The fibrous bark covers the trunk, and decorticates in long strips from the main branches, which are otherwise smooth, but darker than in *E. stellulata*. The timber is yellowish-brown, and tough to cut, but brittle.

The small stellate clusters of buds are larger than those of *E. stellulata*, but the colour of the upper branches, though fainter, is also suggestive of that species. The leaves are more inclined to lanceolate than ovate in shape, as obtains in *E. stellulata*, whilst the venation is distinct. The midrib is stronger, and the venation not so parallel as in *E. stellulata*. The bark, timber, and especially the fruits are also different. The venation seems to be intermediate between that of the typical Stringybarks and the Peppermint group, but more approaching that of *E. dives*. One or two trees were noticed in another locality, associated with *E. stellulata*, from which it is easily distinguished in the field. The venation somewhat resembles that of *E. coriacea*, but the fruits are different, and especially the buds and bark.

The fruits fairly well match those of *E. capitellata*, but this is the only resemblance to that species amongst Stringybarks.

In a botanical sequence, it might be placed between the Stringybarks and the Gums or Smoothbarks, such as *E. stellulata* or *E. coriacea*.

Timber.—From the specimens seen, this is not a good timber. It is fairly close-grained, of a pale colour, but the presence of gum-veins will militate against its general utilisation by the commercial world.

Oil. Mr. H. G. Smith, F.C.S., reports as follows on this economic :—The material was collected at Black Mountain, New England District, August, 1907. The oil distilled from the leaves and branchlets, in the ordinary way, was equal to 0·368 per cent. The crude oil was dark-coloured, but could be easily cleared to an olive-brown tint. The oil of this species contains a rather large

amount of lævo-rotatory pinene (not less than 30 or 40 per cent.) with some phellandrene, and less than 5 per cent. of eucalyptol. Esters were present, the saponification number being 13.4. A considerable amount of the oil boiled at a high temperature, and consisted largely of the sesquiterpene usually found in this class of Eucalyptus oils. The specific gravity at $15^{\circ}\text{C} = 0.9095$; rotation $a_D = -8.1^{\circ}$; refractive index at $18^{\circ}\text{C} = 1.4799$; and required 6 volumes 80 per cent alcohol to form a clear solution. On rectification, 54 per cent. came over below $175^{\circ}\text{C}.$ (corr.); 7 per cent. between 175 - 225° ; and 32 per cent. between 225 - 270° , the greater portion above 260° . The specific gravity of the first fraction at $15^{\circ} = 0.8705$; of the second $= 0.9006$; of the third $= 0.9428$. The rotation of the first fraction $a_D = -15.9^{\circ}$; of the second $= -13.6$. The refractive index at $18^{\circ}\text{C}.$ of the first fraction $= 1.4662$; of the second $= 1.4722$; of the third $= 1.4967$. On again distilling the first fraction 20 per cent. came over below $157^{\circ}\text{C}.$ This had sp.gr. at $15^{\circ} = 0.8665$; rotation $a_D = -19.1^{\circ}$; refractive index at $19^{\circ} = 1.4644$. The nitrosochloride was easily prepared with this, and melted at the usual temperature.

The oil of this species differs considerably from that of *E. stellulata*, in the presence of such a large amount of pinene, in a deficiency in phellandrene, and consequently a much less lævo-rotation, in the large amount of high boiling constituents, and in an increased ester-content.

MELALEUCA IRBYIANA, sp.nov.

A small glabrous tree or shrub, found growing in or near swamps, with very slender filiform branchlets. Leaves very small, alternate, ovate, lanceolate, acute or obtuse, concave and broad above the base, erect or slightly spreading in the upper portion, imbricate almost appressed in the new growth, striate, mostly one line long. Flowers in compact or loose cylindrical spikes, mostly about one inch long, the axis growing out before the flowering is over, the floral leaves persistent. Calyx-tube cylindrical, about one line long, glabrous; lobes short, broad, striate, shorter than the tube, with a pinkish tinge. Petals twice as long

as the calyx, lobes persistent, staminal bundles about 2 lines long, the claw scarcely exceeding the petals, each with numerous filaments.

Fruiting-calyx globular, contracted, and mostly entire; only occasionally do the minute calyx-lobes crown it.

Frutex glaber, erectus, ramis gracilibus, ramulis junioribus filiformibus; foliis minimis, alternis, ovatis, mucronatis vel elliptico-lanceolatis, 1-2''' longis, striatis, paucinerviis, sessilibus; floribus spicatis, brevibus, rhachidibusque glabris; capsulis compactis, pilularibus.

Remarks.—This *Melaleuca* was discovered by Mr. L. G. Irby, Museum Collector, when collecting on the Lawrence Road at Casino, where it is not common, in the swamps in that locality.

It is a shrub or small tree, and is differentiated in the field by its delicate filiform branchlets, and very small leaves. In this latter respect it stands quite alone among *Melaleucas*. The most suitable specific name for it has already been appropriated for a Western Australian species. The leaves, however, are not unlike those of some *Epacrids*, and so a derivative of this name would also be specially applicable; they are numerous, imbricate, sometimes appressed, especially in the extremely slender branchlets. Although acuminate, they are not pungent-pointed, but rather obtuse; the striations are few and not nearly so well marked as in *M. styphelioides*, its nearest ally. Another feature that may be mentioned is, that the leaves are deciduous in herbarium material, in contrast to the persistent leaves of *M. styphelioides*. It also resembles this species in that it has little or no oil in its leaves. It differs from *M. styphelioides* in the smallness of its leaves, and in the venation, glabrous character, calyx-lobes, and fruits, and the same remarks apply to other species of the genus.

In a systematic classification it would be placed in Series v. of Bentham's subdivision of the genus (*Flora Australiensis*, Vol.iii., p.125):—"Leaves alternate or opposite. Flowers either solitary or few and distinct, or in more or less interrupted oblong-cylindrical or elongated spikes, sometimes at first terminal but the axis usually growing out before the flowering is over, rarely

in dense lateral cylindrical spikes. Rhachis glabrous, pubescent or villous." Under this heading is a section:—"Leaves mostly alternate, Flowers usually numerous," which includes *M. leucadendron*, *M. lasiandra*, *M. genistifolia*, *M. styphelioides* and *M. Huegelii*; and it is between these last two, that it is now placed.

EXPLANATION OF PLATES LXIII.-LXIV.

Plate lxiii.

Eucalyptus Laseroni.

Fig. 1.—Twig with normal leaves and buds.

Fig. 2.—Individual abnormal leaf.

Fig. 3.—Fruits.

All natural size.

Plate lxiv.

Melaleuca Irbyiana.

Fig. 1.—Twig with flowers and buds.

Fig. 2.—Twig with fruits.

Fig. 3.—Individual leaf.

Fig. 4.—Bud.

Fig. 5.—Flowers.

Nos. 3, 4 and 5, enlarged.